**17 July 2024**

# Investor Webinar

MELBOURNE, Australia – Sunrise Energy Metals Limited (**Sunrise Energy Metals** or **the Company**) (ASX:SRL and OTC:SREMF) is pleased to announce that CEO and Managing Director, Sam Riggall, will be hosting an online investor update to discuss recent Company developments. Mr Riggall's presentation for the webinar is attached.

The Company will host the webinar via Zoom and it is expected to last approximately 45 minutes. To register please follow the link below.

**Date**: Friday 19 July 2024

**Time**: 10.00am AEST

**Registration Link**: https://us02web.zoom.us/webinar/register/WN_Ceav66JRRiyI0cFDM8P-Jw

This announcement is authorised for release to the market by the Board of Directors of Sunrise Energy Metals Limited.

**For more information, please contact:**

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**About Sunrise Energy Metals Limited**

Sunrise Energy Metals Limited (ASX:SRL) is progressing its world-class Sunrise Battery Materials Complex in New South Wales. The Sunrise Project is one of the largest and most cobalt-rich nickel laterite deposits in the world and is development-ready, with all key permits and approvals in place. Sunrise is also one of the largest and highest-grade scandium deposits globally.

**Forward Looking Statements**

Certain statements in this news release may constitute "forward-looking statements or "forward- looking information" within the meaning of applicable securities laws. Such statements involve known and unknown risks, uncertainties and other factors, which may cause actual results, performance or achievements of the Company or industry results, to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements or information. Such statements can be identified by the use of words such as "may", "would", "could", "will", "intend", "expect", "believe", "plan", "anticipate", "estimate", "scheduled", "forecast", "predict" and other similar terminology, or state that certain actions, events or results "may", "could", "would", "might" or "will" be taken, occur or be achieved. These statements reflect the Company's current expectations regarding future events, performance and results, and speak only as of the date of this new release. Readers are cautioned not to place undue reliance on forward-looking information or statements.

Although the forward-looking statements contained in this news release are based upon what management of the Company believes are reasonable assumptions, the Company cannot assure investors that actual results will be consistent with these forward-looking statements. These forward-looking statements are made as of the date of this news release and are expressly qualified in their entirety by this cautionary statement. Subject to applicable securities laws, the Company does not assume any obligation to update or revise the forward-looking statements contained herein to reflect events or circumstances occurring after the date of this news release. For more information about Sunrise Energy Metals please visit the Company's website www.sunriseem.com.

sunrise
energy metals

# Repositioning for growth

July 2024

# Cautionary statement

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Readers are cautioned that actual results may vary from those presented.

All such forward-looking information and statements are based on certain assumptions and analyses made by Sunrise Energy Metals’ representatives in light of their experience and perception of historical trends, current conditions and expected future developments, as well as other factors the Company believes are appropriate in the circumstances. These statements, however, are subject to a variety of risks and uncertainties and other factors that could cause actual events or results to differ materially from those projected in the forward-looking information or statements including, but not limited to, unexpected changes in laws, rules or regulations, or their enforcement by applicable authorities; the failure of parties to contracts to perform as agreed; changes in commodity prices; delays in financing or project funding; unexpected failure or inadequacy of infrastructure, or delays in the development of infrastructure, and the failure of exploration programs or other studies to deliver anticipated results or results that would justify and support continued studies, development or operations. Readers are cautioned not to place undue reliance on forward-looking information or statements.

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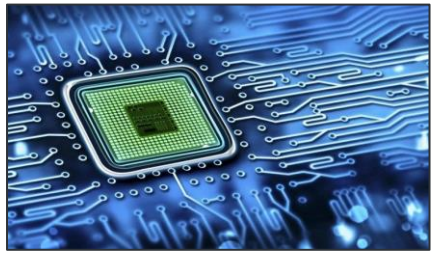
# An advanced portfolio of assets

## Sunrise Nickel-Cobalt Project

A large, long-life, low-cost and development-ready asset targeting growth in global automotive electrification technologies



## Syerston Scandium Project

A low-capex, high-value, stand-alone mine/refinery targeting scandium adoption in 5G/6G telecoms chips, civilian and military alloys and micro-electro-mechanical-systems (MEMS)

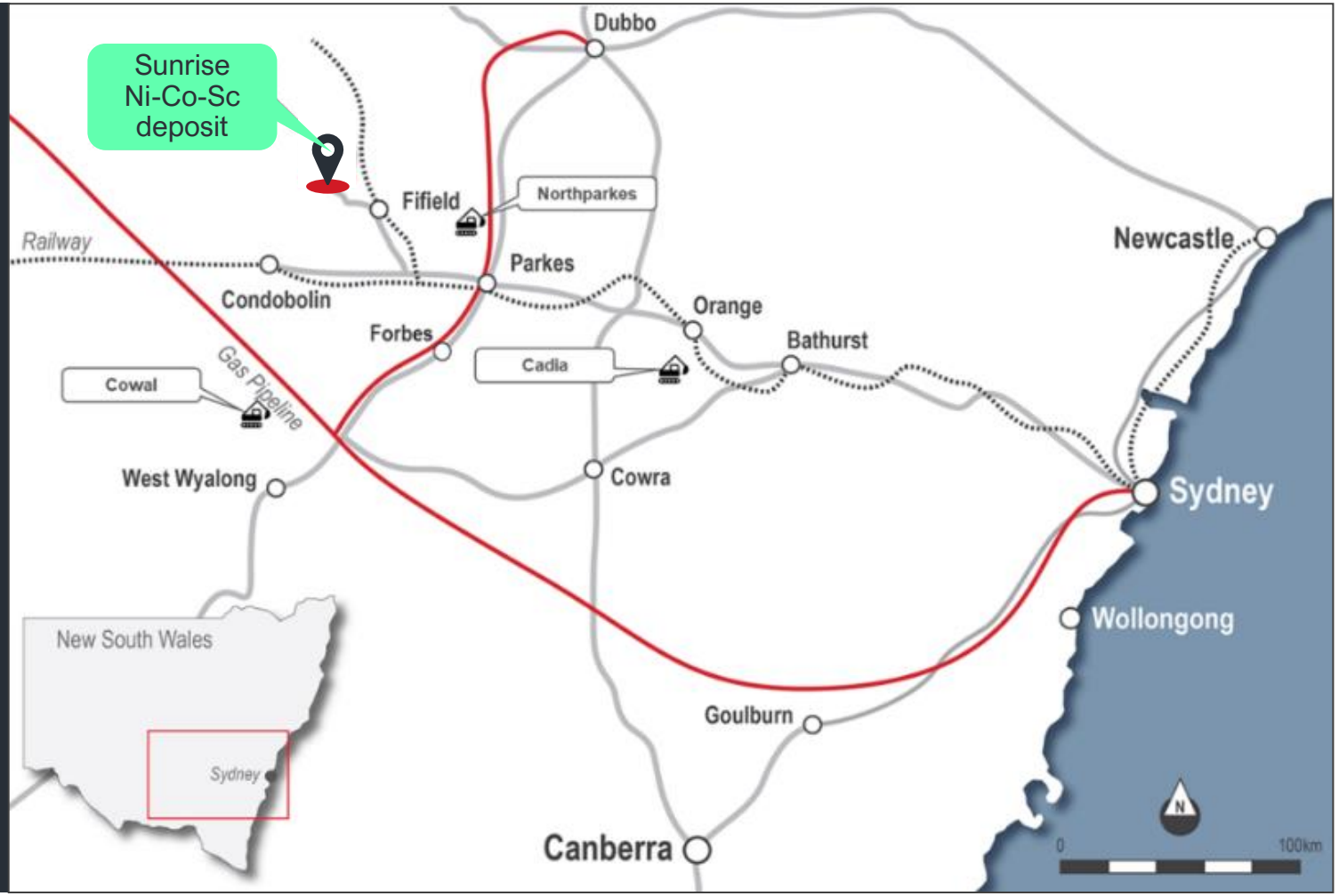
## Exploration portfolio

Over 3,400km$^2$ of exploration and mining rights in the Lachlan Fold Belt (NSW), and earn-in rights on some of the most prospective mineralised districts in the Cloncurry region (Qld)

# Sunrise Nickel-Cobalt Project

# Project summary

- Value. A large, low-cost, permitted nickel-cobalt development in a safe jurisdiction
- Opportunity. Strategic value evident as tensions in US-China relations increase: major Inflation Reduction Act credits
- Market. Ni/Co oversupplied due to a flood of new Chinese capacity from Indonesia – has impacted partnering and financing discussions
- Strategy. Minimize holding costs and preserve options until market conditions improve




Refer to ASX Release of 28 September 2020 for more details.

# Inflation Reduction Act (IRA)

- Batteries made using Sunrise nickel and cobalt is eligible for s30D IRA electric vehicle tax credits:
  - Sunrise production is sufficient to produce up to 1 million electric vehicle batteries per year, for c. 50 years
  - The critical mineral component of the tax credit is US$3,750 per vehicle; therefore, **Sunrise can unlock up to US$3.75 billion pa in available tax credits for EV customers**[1]
- The value embedded in IRA tax credits is not reflected in any project-level NPV or IRR for Sunrise, but it delivers significant pricing power to sellers of US electric vehicles
- The future of the US auto industry depends on its ability to compete with China on cost and price – the IRA was designed and legislated specifically for projects like Sunrise

"Tell (automakers) to get aggressive and make sure that we're extracting in North America, we're processing in North America and we put a line on China. I don't believe that we should be building a transportation mode on the backs of foreign supply chains. I'm not going to do it."

- US Senator Joe Manchin, 3 August 2022

1. Assumes that the total percentage of eligible critical minerals (as defined by the IRA) in the battery meets the minimum threshold required by the IRA guidelines

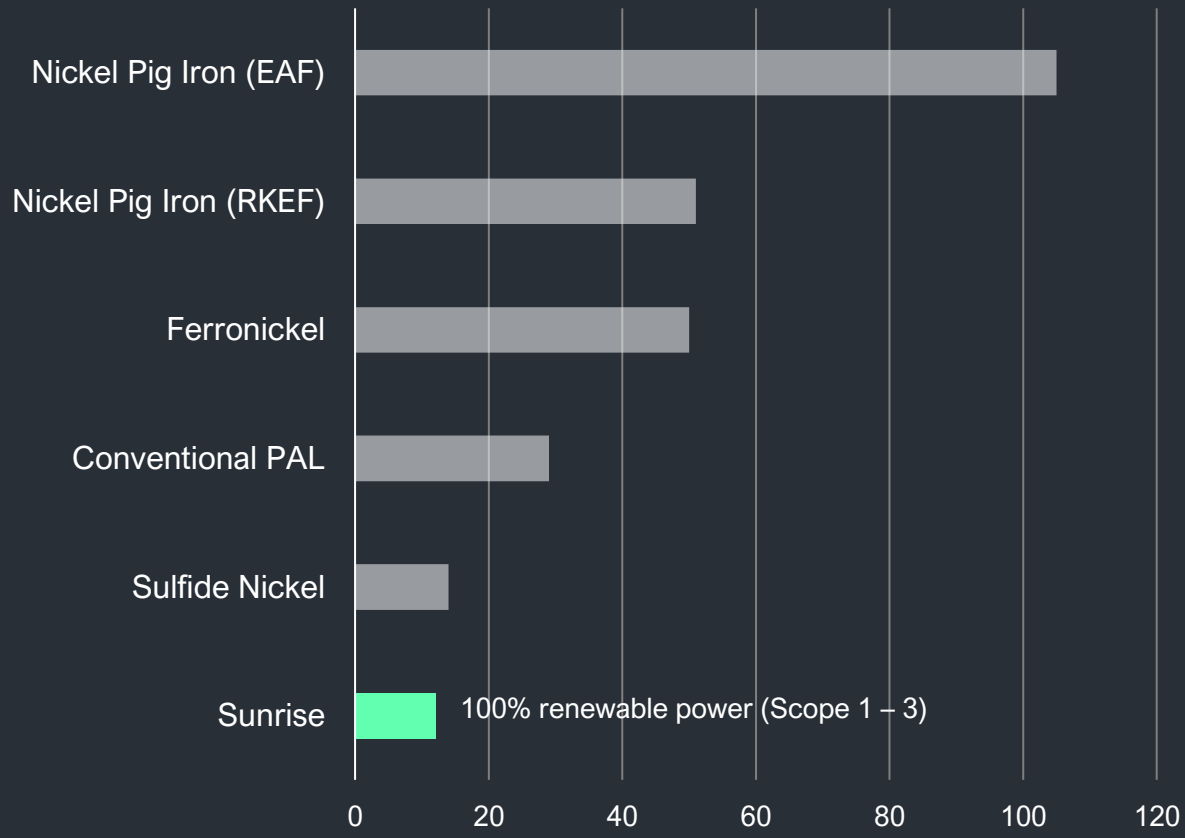
# Sustainability in design

- Key design features of the Sunrise Project include:
  - 100% renewable power for mine and processing plant
  - Use of co-gen to reduce electricity demand
  - Water re-use from on-site water treatment facilitates
  - Managing HSEC obligations to international best practice, including ANCOLD standards for waste management
  - Option to by-pass crystallisation with on-site pCAM and capacity to recycle for a fully circular supply chain

› Deforestation and pollution from nickel mining in SE Asia

## Carbon intensity of nickel production

(kg CO2/Kg Nickel in sulphate)




Source: Energetics, Life Cycle Assessment Report: greenhouse gas emission comparison for nickel production routes (Feb 2020). The GHG emission intensities of alternative processing routes are based on literature data that cannot be effectively harmonized. For comparison purposes the only harmonization that has occurred has been on end product (NiSO4) and using economic allocation to end products. Comparisons against Sunrise should be considered indicative. See also Nickel Institute, Life Cycle Data Assessment. Energy consumption for conventional PAL, ferronickel and NPI products assumes Indonesian development utilizing coal as primary power source. Sulfide nickel data varies between 9 and 19 kg CO2e depending on power source.

# Pre-construction activities


Sunrise Project Site


Pump testing water bores

- Recent work has focused on pre-construction activities:
  - Installation and pump testing of water bores completed
  - Design and engineering for electrical connection delivered
  - Engineering for oversize transport route completed
  - Periodic monitoring and reporting of environmental data
- The project comprises significant real assets:
  - 2 x HPAL autoclaves (3mtpa capacity) – c. A$45m market value
  - 50km$^2$ of freehold land surrounding the project site
  - High security water rights
  - 3,430km$^2$ of exploration and mining rights in the Lachlan Fold Belt
- The focus going forward is to preserve option value at minimal cost while engagement with government and industry continues
- Ultimately, much depends on whether western auto supply chains are prepared to take China/Indonesia supply risk

# Syerston Scandium Project

# Syerston Scandium Project - Updated Feasibility Study

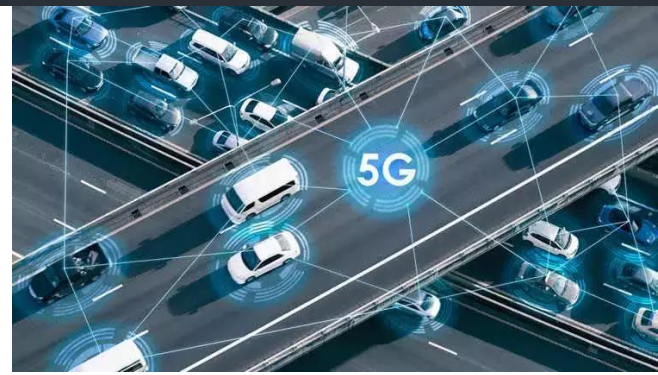
GR Engineering Services has been appointed to update the 2016 Syerston Scandium Project Feasibility Study[1]

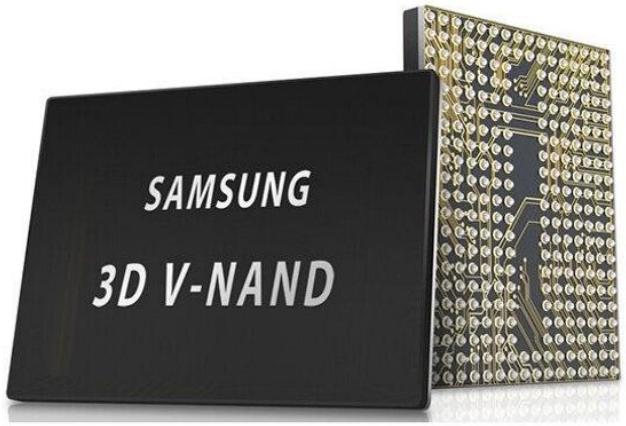
The scope assumes a stand-alone mine and processing plant to produce scandium-containing materials

Extrusion trials are expected to commence shortly in the United States, to test the Company's proprietary 6xxx-series alloys in a range of auto components

Offtake discussions have recommenced with several counterparties across the specialty alloy, semiconductor and aerospace markets

Several new applications have emerged for scandium over the past decade, warranting a reassessment of market potential





1. Refer to ASX Release of 9 July 2024 for more details.

# Scandium markets

## HIGH-PERFORMANCE ALLOYS

Potentially the largest use case in automotive, marine and aerospace applications, although adoption to date is limited.

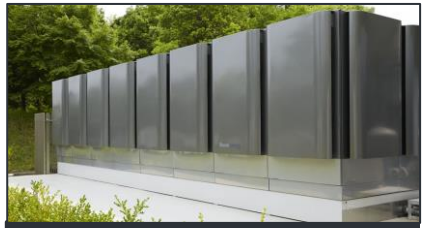
The effects of scandium on aluminium strength, extrudability, corrosion-resistance and weldability are well documented.

Customers need evidence of diverse and scalable supply chains before committing to new applications.


## SEMICONDUCTORS / MICROELECTRONICS

A relatively new market, but highly strategic in terms of 5G/6G comms technologies.

Scandium-doped RF filters provide enhanced piezoelectric performance for low latency, high bandwidth for cellular connectivity. More recent innovation has shown scandium's value in tuneable ferroelectric chips, as a more powerful alternative to existing flash (NAND) memory.



## FUEL CELLS / HYDROGEN

The largest application presently, but growth will be moderate.

Solid oxide fuel cells electrochemically convert natural gas to electricity and can be used as a hydrolyzer to produce green hydrogen.

Civilian and defense applications for site-sensitive off-grid power generation, e.g. server farms, key infrastructure, military sites.

- Three strategic markets – high performance military and civilian alloys; semiconductors; low-emission technologies
- The alloy market presents the largest growth opportunity by volume and is the focus of our development efforts
- Scandium is needed in intermediate, chemical and metal form – China currently controls all these markets
- The Chinese rare earths industry was recently nationalized, and restrictions placed on export of technology and equipment

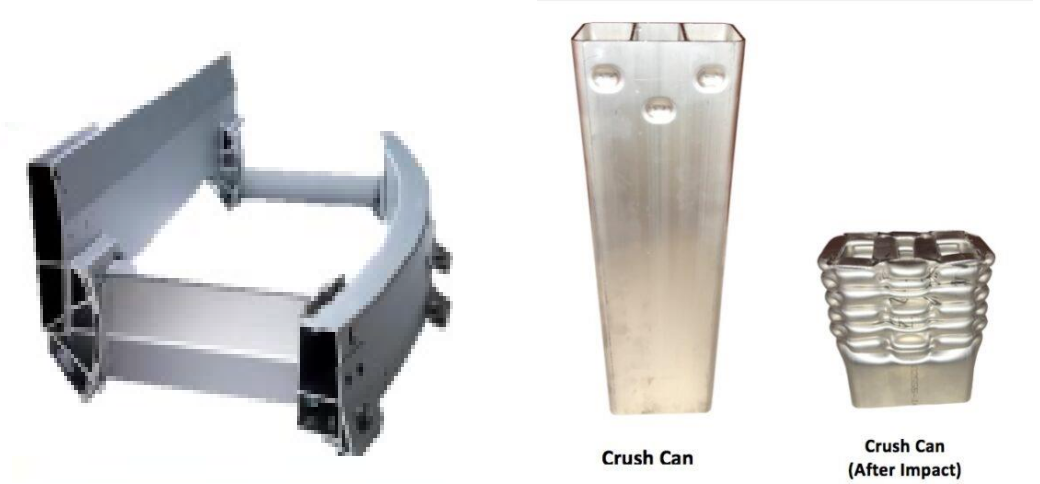
# Case study: high-strength automotive alloys

- How to compete with steel in car crash management systems?  Existing aluminum alloys are difficult to extrude and have high scrap rates
- Our funding of a two-year Michigan Tech program has developed a unique 6xxx-series alloy that results in higher strength, improved extrudability and less processing
- A test program will be undertaken in 2H 2024 with an American automotive component supplier to assess AA6008+Sc for a range of automotive applications

**AA6008 + Sc: a 33% increase in yield strength**

| | Yield Strength (MPa) | Tensile Strength (MPa) | Elongation (%) |
|---|---|---|---|
| 6008 | 277 | 321 | 21.3 |
| **6008+Sc** | **370** | **395** | **17.6** |

**Crash Management Systems[1]**




1. See J. Fourmann, “Alloys Selection to Light Weighting Programs,” Aluminum USA, Oct. 2017 Nashville, TN. Also see https://www.lightmetalage.com/news/industry-news/automotive/aluminum-extrusions-prove-superior-in-bumper-systems/

# Case study: microelectromechanical system (MEMS)


**Radio Frequency Filters**

Commercial adoption achieved over 5 years ago

Scandium delivers a 2-3x enhanced piezoelectric effect, allowing greater discrimination within high frequency bandwidths and higher power (5G/6G)

IOT, autonomous vehicles, battlefield comms


**Flash / SS Memory**

Most promising area of research: non-volatile memory

High ferroelectric switching capacity and extreme polarization delivers large, non-volatile memory capability

Cloud-based and localized AI training models

**Accelerometers**

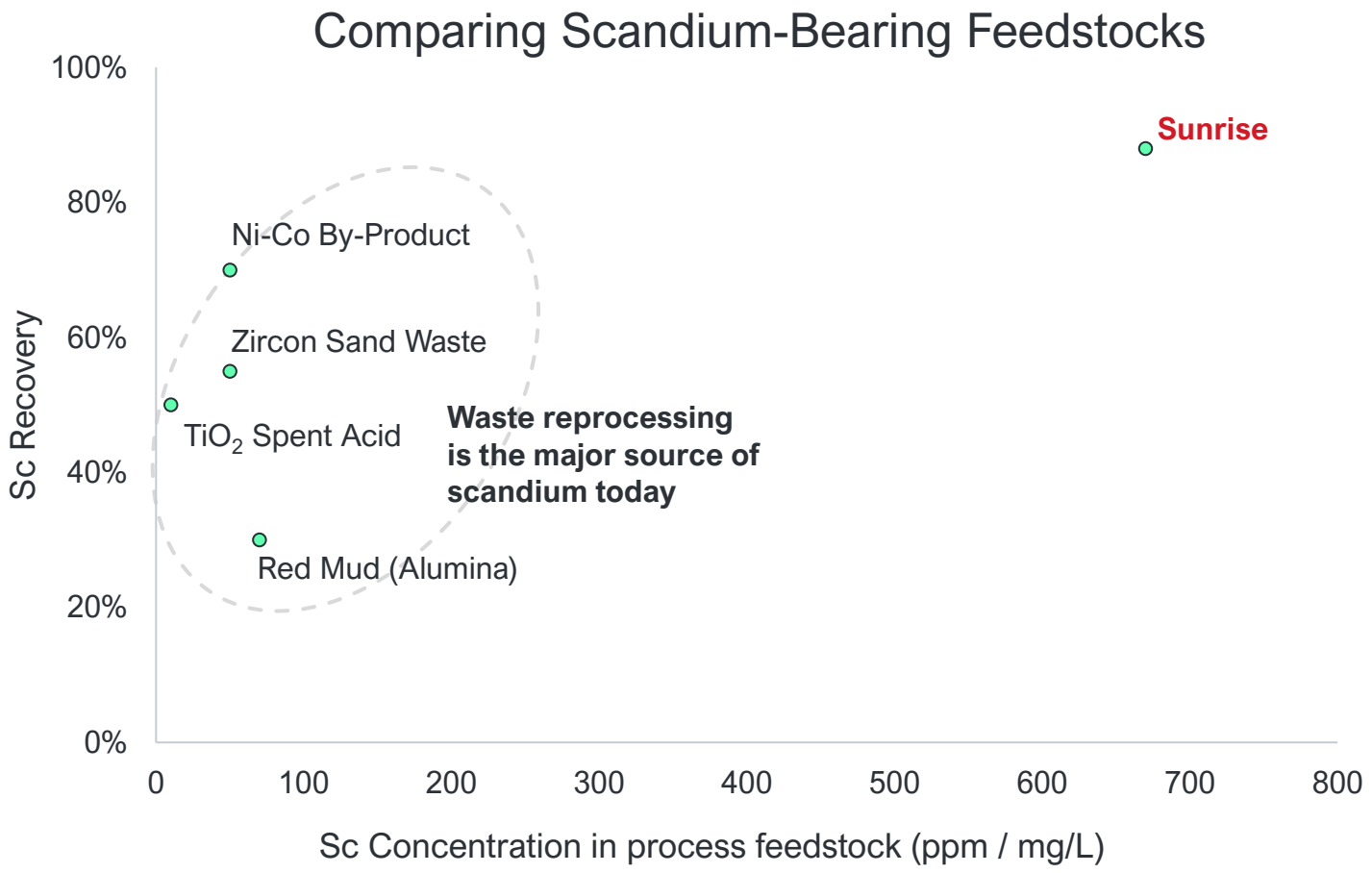
Early-stage development but applications will be extensive

Small, energy efficient, low-temperature dependence and highly sensitive

Inertial navigation, vibration measurement, medical diagnosis, etc

**AlScN Thin Films**

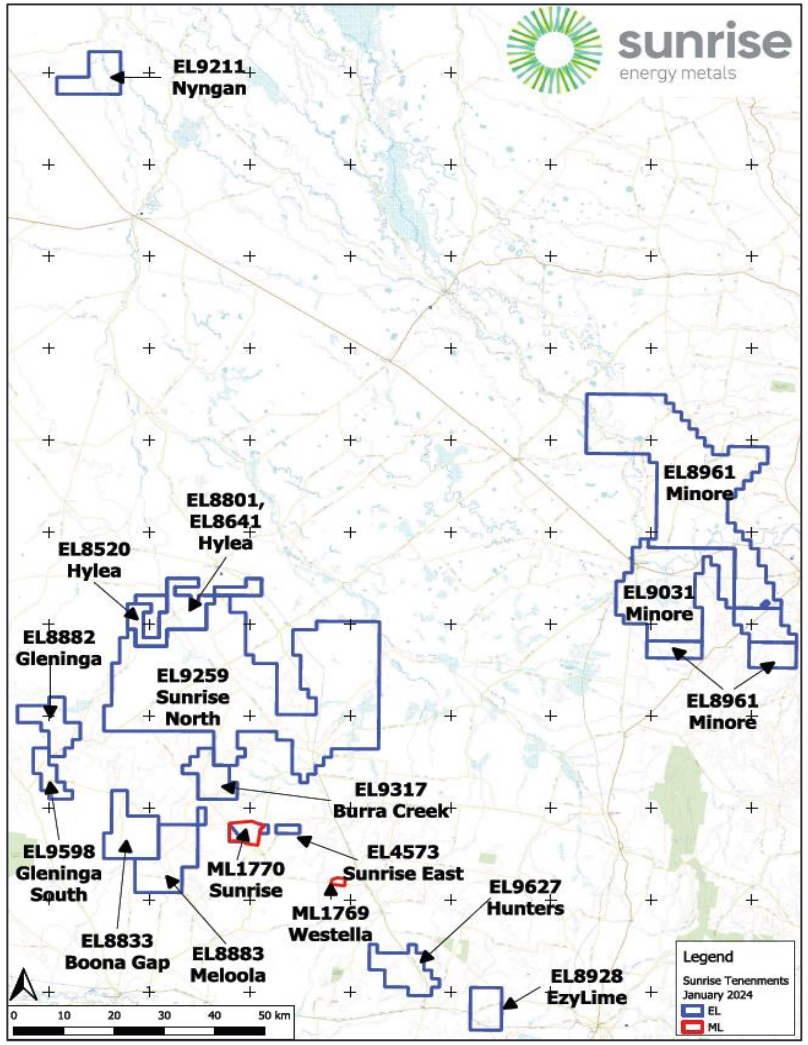
# Comparing scandium sources




- Most of the world's scandium comes from reprocessing acidic $TiO_2$ waste in China, which comes with material environmental legacies, eg deep-welling of acidic residues
- Scandium is not geologically scarce, and China has latent capacity; hence, a stand-alone mine will only succeed if high feed grades can compensate for mining and upgrading costs
- The benefit of mining however is that it is readily scalable

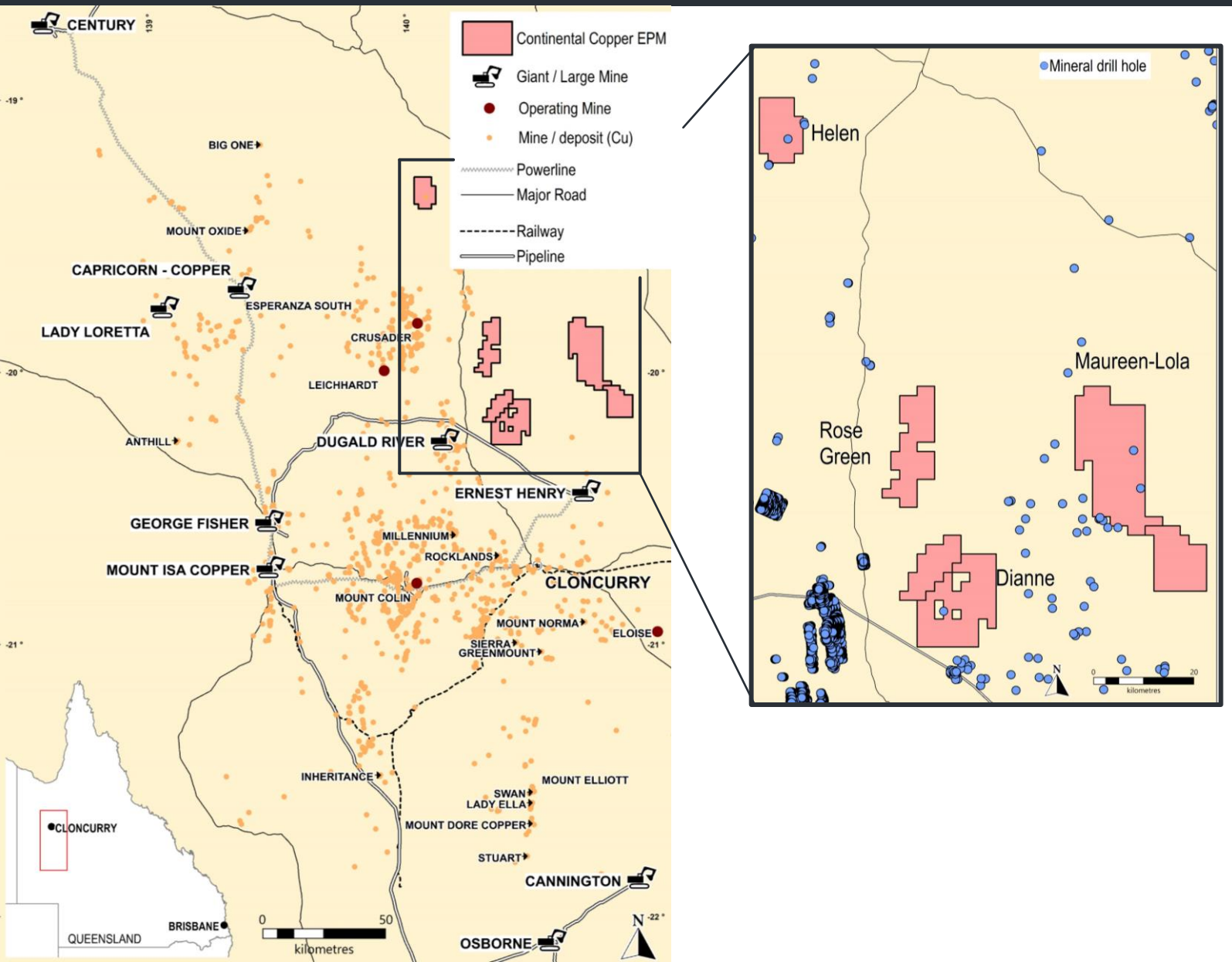
# Exploration

# Lachlan Fold Belt (NSW)




- Over 3,400km$^2$ of exploration acreage across the highly prospective Lachlan Fold Belt
- Recent exploration activities have targeted shallow limestone, with reverse circulation (RC) drilling programs completed on the Boona Gap and Meloola licenses over the first half of 2024
- Limestone supply closer to site presents opportunities to reduce trucking distances and hence opex
- 20 RC holes and 101 auger holes were drilled across Boona Gap and Meloola to a depth of 50-90 metres, and while limestone was encountered, quality was relatively poor
- Preliminary surveying of the Minore prospect was also undertaken, with a view to assessing REE potential

# Clonagh Trend, Cloncurry (Qld)







- Six Exploration Permits (EPMs) covering 912 km$^2$ in the world-class Cloncurry district in Queensland, Australia.
- Located 20km east of Dugald River (60Mt at 12% Zn and 1.6% Pb) and 30km north of Ernest Henry (245 Mt at 1.2% Cu and 0.4g/t Au)
- Underexplored terrane due to cover sequences
- Sunrise Energy Metals has optioned these tenements via a conventional earn-in arrangement – sole funding $3M for 51% or $8M for 75%

# FY25 targets and investment thesis

# Targets for FY2025

| | |
|---|---|
| Sunrise Nickel-Cobalt | • Continue engagement on offtake / funding, particularly in the US<br>• Complete pre-construction activities and preserve option for re-start<br>• Minimal spend anticipated |
| Sunrise Scandium | • Complete update on capital estimate and schedule<br>• Undertake options study – design scope and metal production<br>• Progress work on 6-xxx series extrusion trials in the US<br>• Offtake discussions and market assessment |
| Exploration | • Finalise access arrangements in Cloncurry and commence drilling |

# Investment thesis

| Strategic positioning | Development-ready | Exploration | Sustainability |
|---|---|---|---|
| 1. A portfolio of large, low cost assets<br><br>2. The focus is on metals with high strategic value in key tech industries: batteries, alloys, chips<br><br>3. Option for downstream value-add (e.g. patented alloys, metal production, etc)<br><br>4. Geopolitical tensions are demanding alternatives to China's supply chains | 1. Key permits and approvals already secured<br><br>2. Pre-construction activities completed, with minimal holding costs going forward<br><br>3. Australia viewed as a safe and reliable partner and an excellent location for development | 1. Large land positions held in two of the world's most prospective geological districts<br><br>2. Target generation in Cloncurry is supported by a partner with a world class exploration team | 1. Projects have been designed with strong sustainability credentials<br><br>2. Lowest quartile Scope 1-3 emissions and world class water and waste management<br><br>3. Customers want high supply chain reliability and low reputational risk<br><br>4. Growing awareness that the 'Energy Transition' is really a 'Materials Transition' |

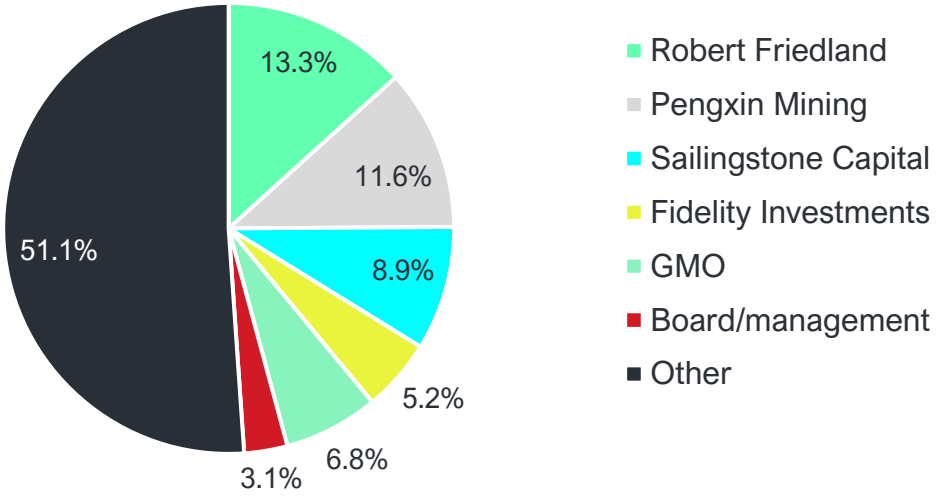
# Appendix

# Corporate snapshot

| Sunrise Energy Metals Limited | |
|---|---|
| ASX Code | ASX:SRL |
| OTCQX Code | OTCQX:CTEQF |
| Shares on Issue | 90.2M |
| Share Price (as at 12 July 2024) | A$0.51 |
| Market Capitalisation | A$46M |
| Cash (as at 12 July 2024) | A$9M |
| Options and performance rights | 2.5M |

## 12 month share price performance


## Major shareholders



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